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REPORT

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Evaluation of Conifers in the Vicinity of
The Sequoyah Fuels Plant (Gore, Oklahoma)

On January 6, 7, and 8, 1986 necrosis of Eastern Red Cedar leaves were noted down wind (to the south, south-east of the plant) from the accidental spill at the plant which occurred on January 4, 1986.

Cedar trees on the east side of Highway 10 which were probably in the plume path of the H F emission were found to possess severe leaf necrosis along the highway right-of-way. Cedar trees on the west side of the highway were unaffected. Also cedars on Kerr-McGee property which would also likely be in the plume path showed no damage. Pines and cedars along interstate 40 were also free from necrosis.

Necrotic cedars were found on Kerr-McGee land one mile east of the intersection of Highway 10 and I-40. Other necrotic cedars were located one-fourth mile south and 350 feet east of the intersection in the creek. These were small cedars growing beneath taller deciduous trees. Necrotic cedars were observed three-fourths mile south-east of the intersection on Kerr-McGee property.

On January 6, 7, and 8, 1986 it was presumed that the necrosis of the cedars was due to hydrofluoric acid fumes from the plume. However, on a return trip on January 21, 1986 a more thorough examination of the damaged cedars was conducted. This study revealed that:

1. Damaged cedars were severe under electric power lines. The symptoms matched those expected from herbicide damage. It was

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discovered that the Sequoyah Electric Cooperative had sprayed the easement with the herbicide Spike and Torodon. In each case the location of necrotic leaves of cedar trees faced toward the power lines. The type of injury resembles Torodon damage. I believe the necrotic cedars resulted from herbicide translocation from the root zone. Soil samples are being tested for Torodon and Spike concentrations. Cedar trees where found under the power lines thoroughout the cooperative system show the same malformatives as those within the plume path.

2. Dying cedars in the creek one-fourth mile south and 550 feet east of I-40 and Highway 10 were sampled and taken to the Oklahoma State University Plant Diagnostic Laboratory. A diagnosis revealed these trees to be suffering from a severe infestation of red spiders and shade from the taller deciduous trees is also affecting the growth of these cedars.

3. Cedar trees throughout the Sequoyah-Muskogee county area showed symptoms of tip burn whether down wind from the spill or not. Oklahoma State University Foresters and Plant Diagnostic personnel have diagnosed the tip injury as freeze damage resulting from abnormal warm temperatures which failed to keep the cedars in a dormant condition. This same condition has more recently been noted in other areas of the state.

Conclusion:

It is now my opinion that cedar trees and other conifers were not burned by the emissions from the accident. The soil analyses for Torodon and Spike may substantiate the theory of herbicide damage to those necrotic cedars under the power lines.